

What Is Claimed Is:

1. An apparatus comprising: at least one flexible heating resistor element and at least two flexible supply electrodes arranged at a distance from each other and at least partly embedding the heating resistor element between them to form a layered structure, the supply electrodes being arranged to permit a flow of current directed essentially parallel to a vertical extent of the layered structure, wherein the heating resistor element and the supply electrodes each include a plurality of recesses formed therein in the direction of the vertical extent of the layered structure.
2. An apparatus according to claim 1 wherein the plurality of recesses in the heating resistor element and supply electrodes are congruently arranged to form a plurality of webs, the webs and recesses forming a net-like layered structure.
3. An apparatus according to claim 2 wherein the net-like structure is stretched in at least one direction perpendicular to the vertical extent of the layered structure.
4. An apparatus according to claim 1 wherein the heating resistor element comprises a material having a positive temperature coefficient (PTC) effect.
5. An apparatus according to claim 4 wherein the PTC material limits a temperature range of the heating resistor to between approximately 35° C and 90° C.
6. An apparatus according to claim 4 wherein the PTC material limits a temperature range of the heating resistor to between approximately 70° C and 80° C.

7. An apparatus according to claim 5 wherein the heating resistor element is a carbon black coated polymer, and is approximately 0.5 mm to 1.0 mm thick.

8. An apparatus according to claim 1 wherein at least one of the supply electrodes comprises an electrically conductive textile selected from the group consisting of: knotted, woven, knitted or fleeced fabrics.

9. An apparatus according to claim 1 wherein at least one of the supply electrodes comprises a metallic or metallically coated film.

10. An apparatus according to claim 1 wherein the supply electrodes are integrally coupled to the heating resistor element.

11. An apparatus according to claim 2 comprising at least one contacting member including at least two supply conductors electrically coupled to the supply electrodes, the supply conductors spanning the heating resistor element in at least one planar direction of the layered structure, the contacting member being adapted to convey a voltage potential to the supply electrodes by way of the supply conductors.

12. An apparatus according to claim 11 wherein the supply conductors are arranged essentially parallel on the heating resistor element at uniformly spaced intervals.

13. An apparatus according to claim 11 wherein each supply conductor spans several adjacent webs.

14. An apparatus according to claim 1 wherein the heating resistor element and at least one of the flexible supply electrodes are different colors.

15. An apparatus according to claim 1 comprising a
5 covering layer sealing both sides of the layered structure.

16. An apparatus according to claim 1 wherein the layered structure is coupled to a vehicle seat pad by a seat cover.

17. A vehicle seat cushion comprising:
a core pad;

10 a flexible heating element overlaying at least a portion of one side of the core pad, the heating element comprising at least one flexible heating resistor element and at least two flexible supply electrodes arranged at a distance from each other and at least partly embedding the heating resistor element between them to form a layered
15 structure, the layered structure including a plurality of recesses formed therein such that the layered structure is net-like; and

a seat cover overlaying the flexible heating element and coupling the heating element to the core pad,

wherein the heating resistor element comprises a material
20 having a positive temperature coefficient (PTC) effect which limits a temperature range of the heating resistor to between approximately 35° C and 90° C.

18. A vehicle seat cushion according to claim 16 wherein at least a portion of the seat cover is air-permeable, and the core
25 pad includes an opening formed therein in fluid communication with a fan for conveying air through said flexible heating element and said air-permeable portion of said seat cover.

19. A flexible planar heating element comprising:
a flexible heating resistor formed of a material having a positive temperature coefficient (PTC) effect; and
a flexible supply electrode electrically coupled on each side
5 of the heating resistor to form a layered structure, the layered structure having a plurality of recesses formed therein defining a plurality of webs, the webs and recesses resulting in a net-like structure.
20. A flexible planar heating element according to claim
19 wherein the PTC material limits a temperature range of the heating
10 resistor to between approximately 35°C and 90°C.